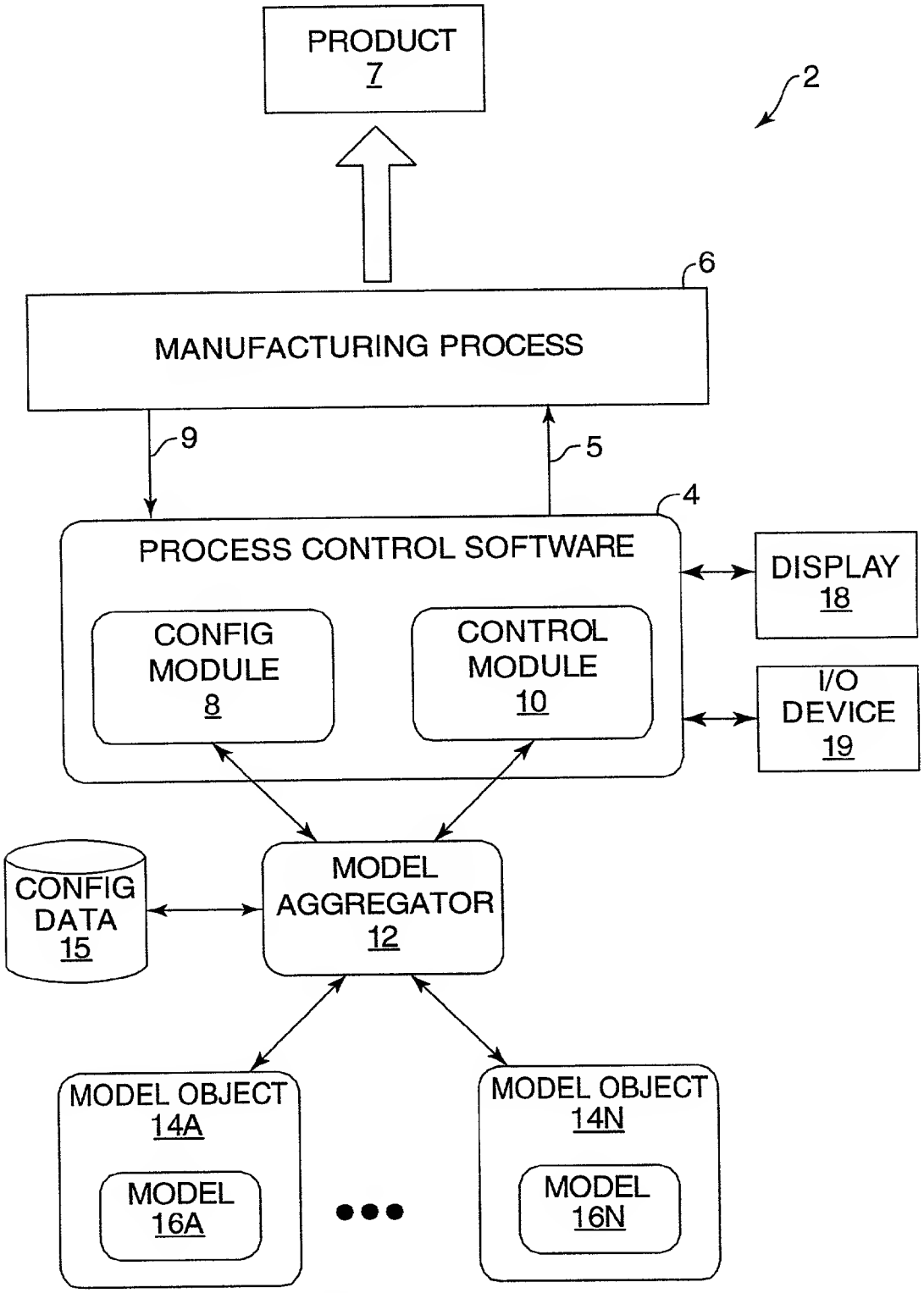
PRODUCT
7
2
6
MANUFACTURING PROCESS
9
5
4
PROCESS CONTROL SOFTWARE
CONFIG
MODULE
8
CONTROL
MODULE
10
DISPLAY
18
I/O
DEVICE
19
CONFIG
DATA
15
MODEL
AGGREGATOR
12
MODEL OBJECT
14A
MODEL
16A
MODEL OBJECT
14N
MODEL
16N

FIG. 1

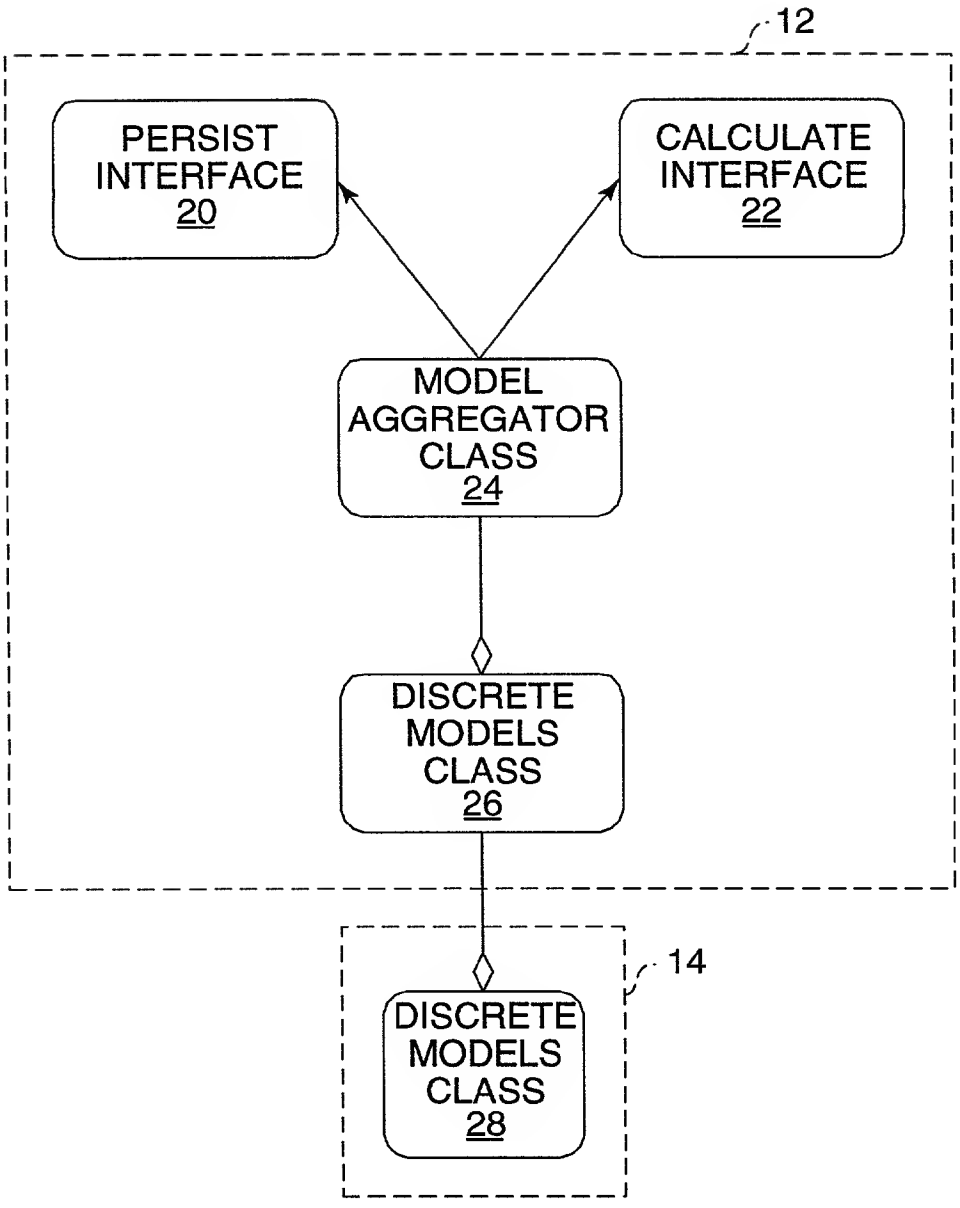
12
PERSIST INTERFACE 20
CALCULATE INTERFACE 22
MODEL AGGREGATOR CLASS 24
DISCRETE MODELS CLASS 26
14
DISCRETE MODELS CLASS 28

FIG. 2

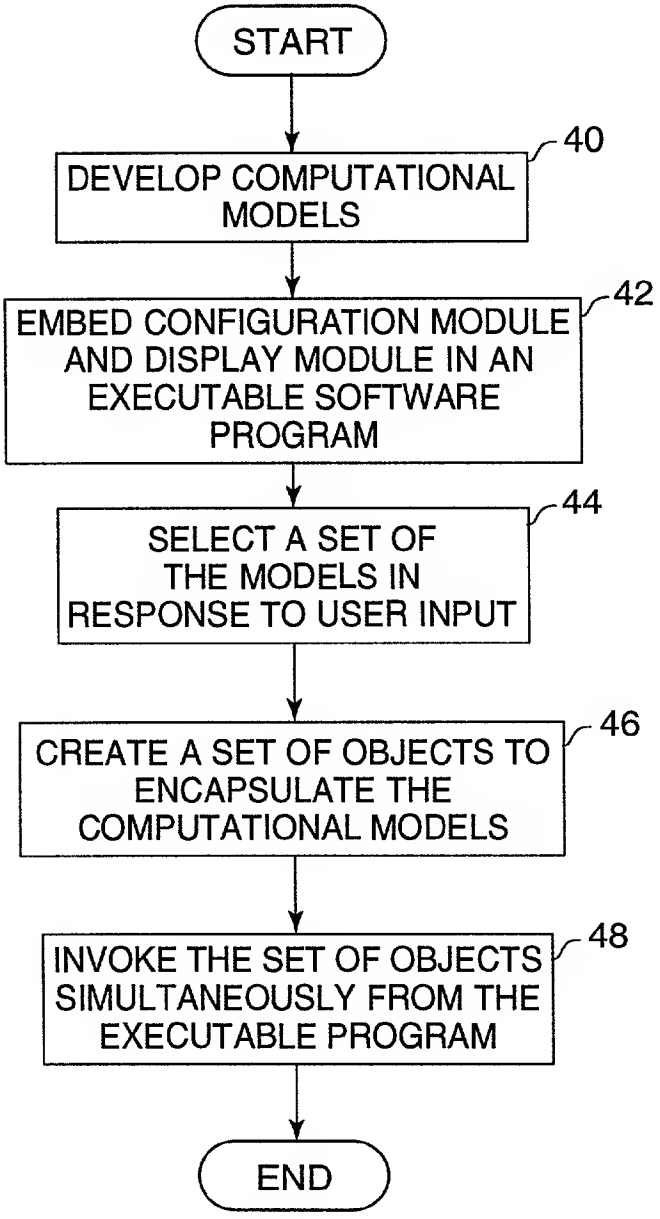
START
DEVELOP COMPUTATIONAL MODELS
40
EMBED CONFIGURATION MODULE AND DISPLAY MODULE IN AN EXECUTABLE SOFTWARE PROGRAM
42
SELECT A SET OF THE MODELS IN RESPONSE TO USER INPUT
44
CREATE A SET OF OBJECTS TO ENCAPSULATE THE COMPUTATIONAL MODELS
46
INVOKE THE SET OF OBJECTS SIMULTANEOUSLY FROM THE EXECUTABLE PROGRAM
48
END

FIG. 3

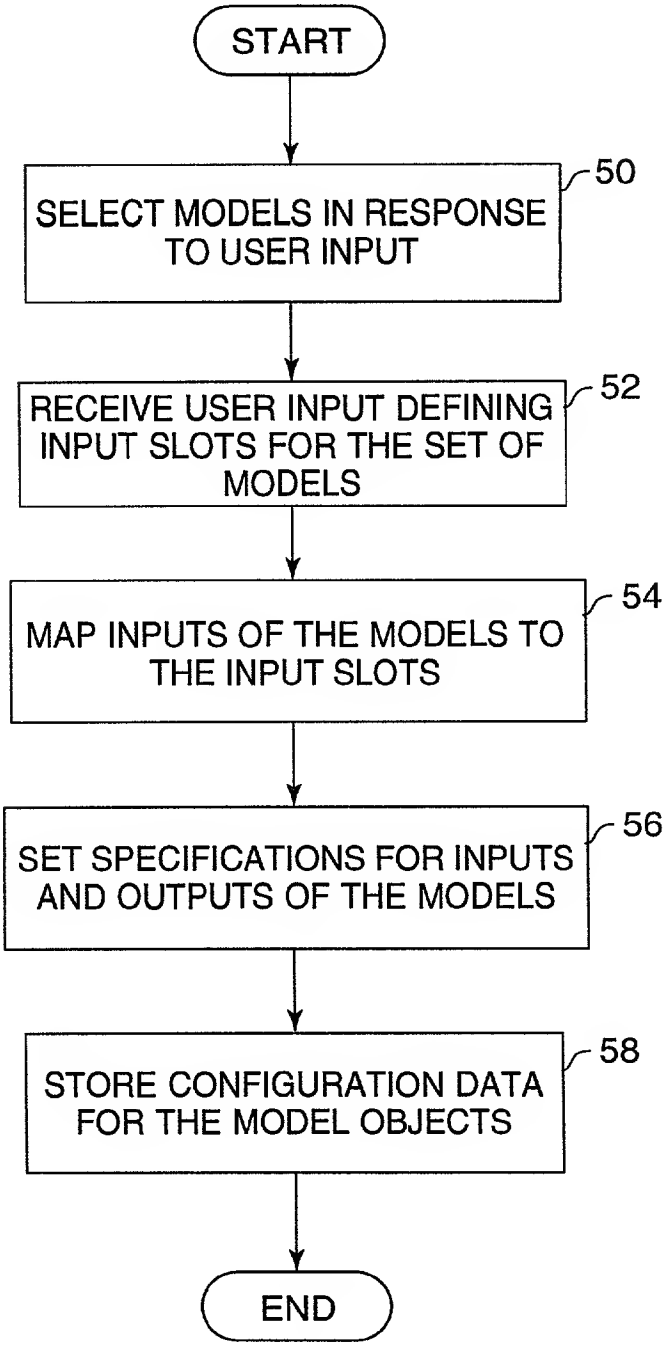
START
SELECT MODELS IN RESPONSE TO USER INPUT
50
RECEIVE USER INPUT DEFINING INPUT SLOTS FOR THE SET OF MODELS
52
MAP INPUTS OF THE MODELS TO THE INPUT SLOTS
54
SET SPECIFICATIONS FOR INPUTS AND OUTPUTS OF THE MODELS
56
STORE CONFIGURATION DATA FOR THE MODEL OBJECTS
58
END

FIG. 4

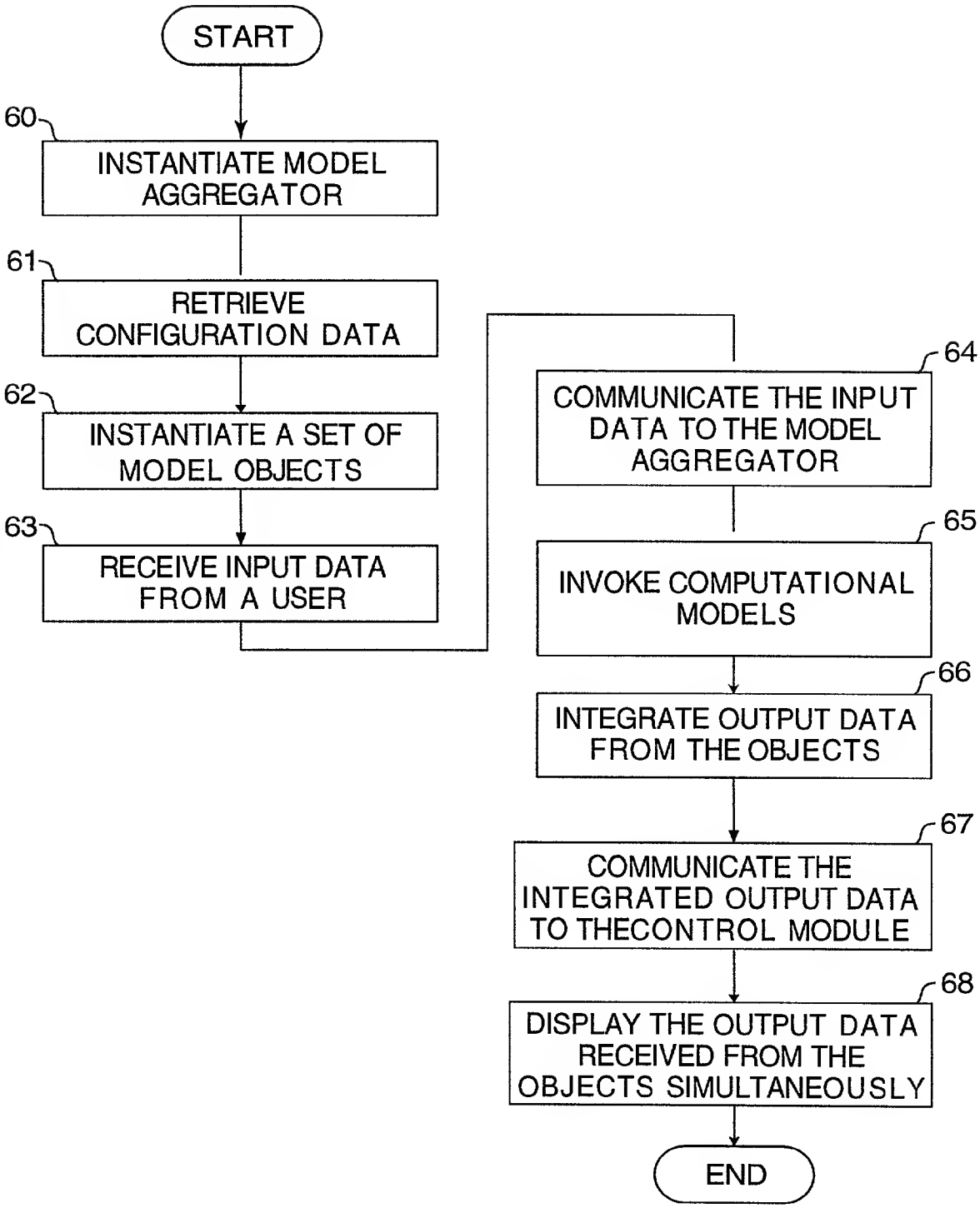
START
60
INSTANTIATE MODEL AGGREGATOR
61
RETRIEVE CONFIGURATION DATA
62
INSTANTIATE A SET OF MODEL OBJECTS
63
RECEIVE INPUT DATA FROM A USER
64
COMMUNICATE THE INPUT DATA TO THE MODEL AGGREGATOR
65
INVOKE COMPUTATIONAL MODELS
66
INTEGRATE OUTPUT DATA FROM THE OBJECTS
67
COMMUNICATE THE INTEGRATED OUTPUT DATA TO THECONTROL MODULE
68
DISPLAY THE OUTPUT DATA RECEIVED FROM THE OBJECTS SIMULTANEOUSLY
END

FIG. 5

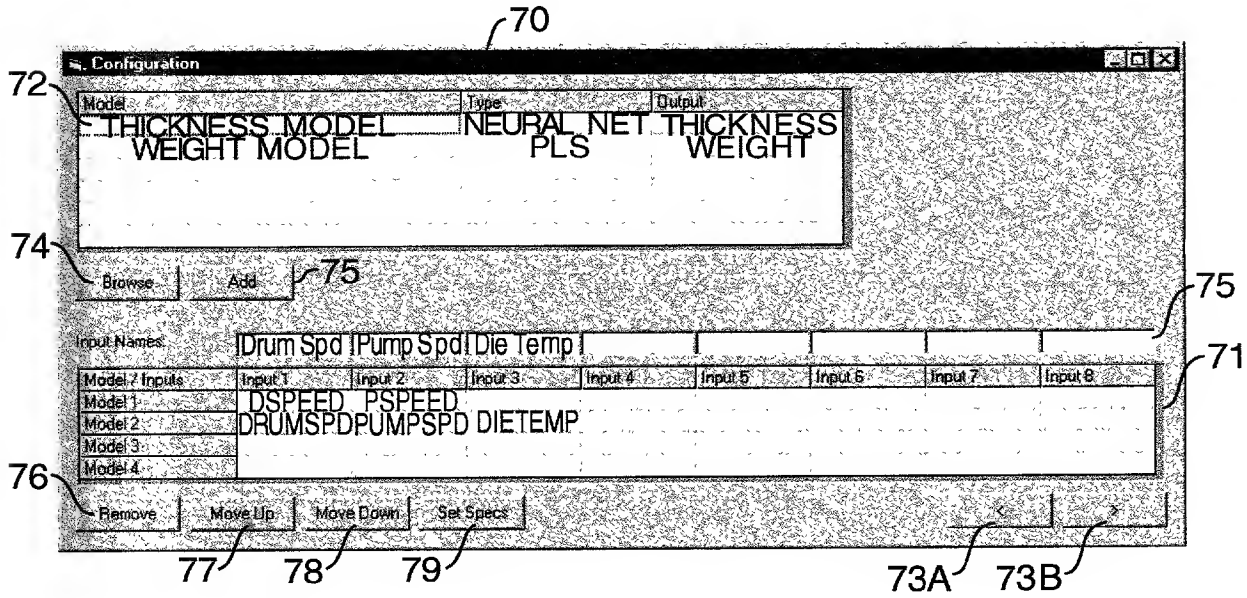
70
Configuration
72
Model
Type
Output
THICKNESS MODEL
NEURAL_NET
THICKNESS
WEIGHT MODEL
PLS
WEIGHT
74
Browse
Add
75
75
Input Names:
Drum Spd
Pump Spd
Die Temp
71
Model / Inputs
Input 1
Input 2
Input 3
Input 4
Input 5
Input 6
Input 7
Input 8
Model 1
DSPEED
PSPEED
Model 2
DRUMSPD
PUMPSPD
DIETEMP
Model 3
Model 4
76
Remove
Move Up
Move Down
Set Specs
77
78
79
73A
73B

FIG. 6

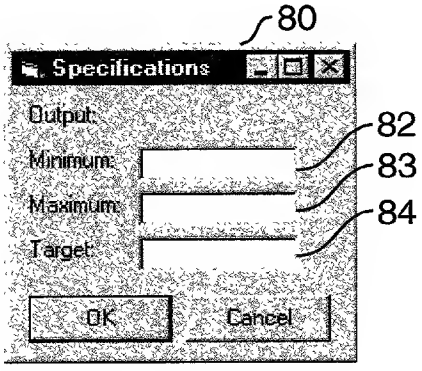
80
Specifications
Output:
82
Minimum:
83
Maximum:
84
Target:
OK
Cancel

FIG. 7

Docket No.: 57205US002

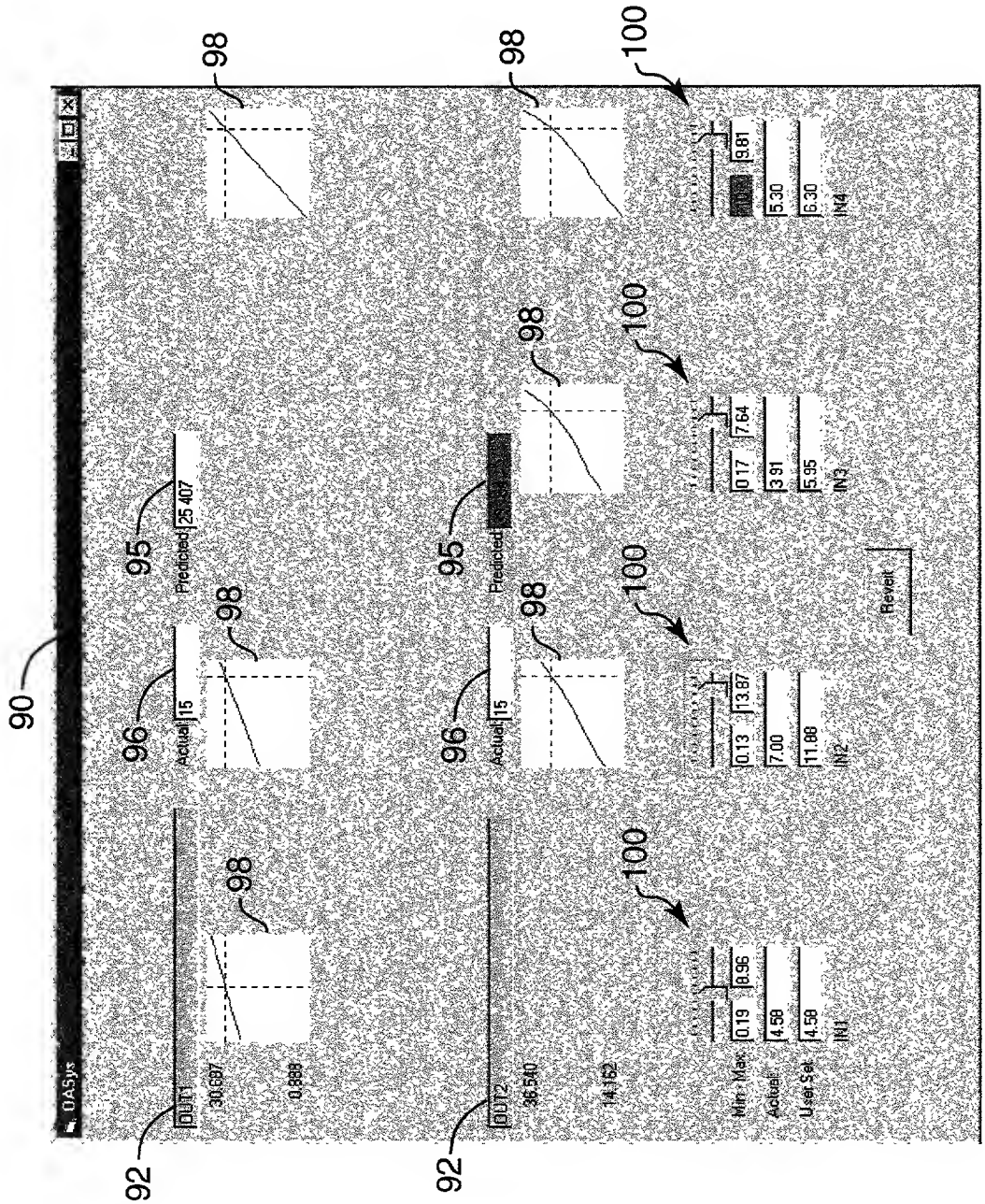

FIG. 8